

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:** Casey, William**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-027846**Date Inspected:** 25-Jun-2012**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1930**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site**CWI Name:** Andrew Keach**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** SAS Tower**Summary of Items Observed:**

Caltrans Office of Structural Material (OSM) Quality Assurance Inspector (QAI) Joselito Lizardo was present at the Self Anchored Suspension (SAS) job site as requested to perform observations on the welding of components for the San Francisco Oakland Bay Bridge (SFOBB) Project.

At Tower Base Electro Slag Weld (ESW) this QA observed ABF welder Jin Pei Wang continuing to perform repair excavation at location 'T' face B due to Ultrasonic Testing (UT) detected defect. The repair excavation is being undertaken per Caltrans approved Request for Weld Repair (RWR)#201206-055. The welder was noted using carbon air arc gouging followed by grinding using a die grinder. During the excavation, the indication at depth 38mm was one indication measuring 27mm long and this was confirmed using Magnetic Particle Testing (MT). The welder continued the excavation at depth 42mm and at this depth there was no more linear indication visible. The welder was told by ABF QC to grind and clean the whole area especially the deep gouges. When the grinding was completed, the final depth of the excavation was measured 50mm. ABF QC Jesse Cayabyab performed the final MT on the boat shape excavation and found no significant defect during the test. This QA performed the MT verification and noted same result. The final dimension of the excavation located at Y=6000mm was 260mm long X 55mm wide X 50mm deep.

At Tower Base Electro Slag Welding (ESW) 100mm/80mm transition weld butt joint 'T' face A (S-043), QA randomly observed ABF/JV qualified welder Lou Xiao Hua continuing to perform CJP groove welding repair at Y=2240mm to Y=2440mm with excavation dimensions of 200mm long X 50mm wide x 52 mm deep per Caltrans approved Request for Welding Repair (RWR) #201206-50. The welder was observed welding in the 3G (vertical) position utilizing Shielded Metal Arc Welding (SMAW) with 3.2mm diameter E7018H4R electrode implementing

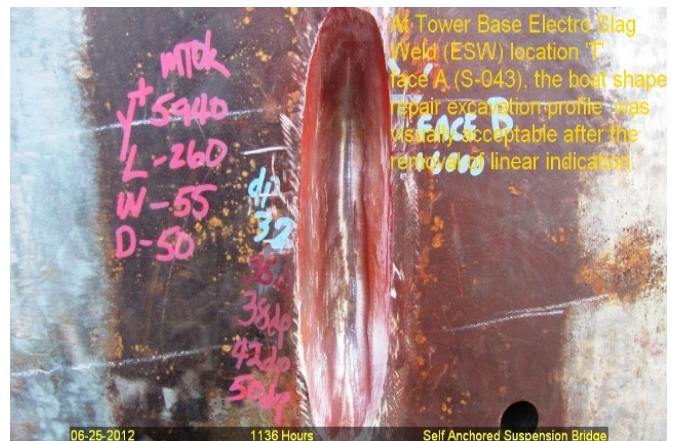
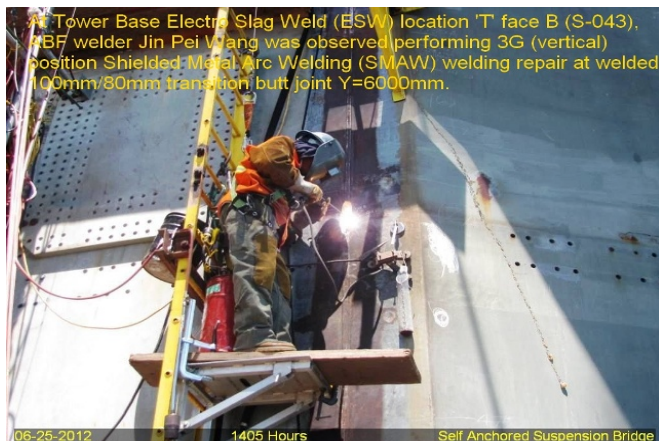
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welding procedure ABF-WPS-D15-1000-Repair Rev. 2. The repair excavation was preheated to more than 300 degree Fahrenheit using Miller Proheat 35 Induction Heating System. During the shift, ABF QC Andrew Keach was noted monitoring the welder with measured working current of 115 amperes during welding. At the end of the shift, the welding repair of weld joint mentioned above was completed. The welder was noted setting up the carbon air arc gouging equipment to new excavation after welding.

At Tower Base Electro Slag Weld (ESW), this QA observed ABF welder Lou Xiao Hua perform repair excavation at location 'T' face A (S-043) due to Ultrasonic Testing (UT) detected defect. The repair excavation is being undertaken per Caltrans approved Request for Weld Repair (RWR)#201206-057. The welder was noted using carbon air arc gouging followed by grinding using a die grinder. During the excavation, one linear indication located at Y=3980mm was noted at depth 36mm and was measured 27mm long. This was confirmed using Magnetic Particle Testing (MT). The welder continued the excavation at depth 40mm and the indication was measured 25mm long. The welder continued the excavation at depth 45mm and the indication was measured 20mm long and at this time the welder has stopped the excavation due to end of the shift. The welder has told ABF QC Andrew Keach and this QA that he will continue the excavation tomorrow.

At Tower Base Electro Slag Welding (ESW) 100mm/80mm transition weld butt joint 'V' face A (W-043), QA randomly observed ABF/JV qualified welder Xiao Jian Wan continuing to perform CJP groove welding repair at Y=300mm to Y=580mm with excavation dimensions of 280mm long X 70mm wide x 55 mm deep per Caltrans approved Request for Welding Repair (RWR) #201206-42. The welder was observed welding in the 3G (vertical) position utilizing Shielded Metal Arc Welding (SMAW) with 3.2mm diameter E7018H4R electrode implementing welding procedure ABF-WPS-D15-1000-Repair Rev. 2. The repair excavation was preheated to more than 300 degree Fahrenheit using Miller Proheat 35 Induction Heating System. During the shift, ABF QC Andrew Keach was noted monitoring the welder with measured working current of 123 amperes during welding. At the end of the shift, the welding repair of weld joint mentioned above was completed.

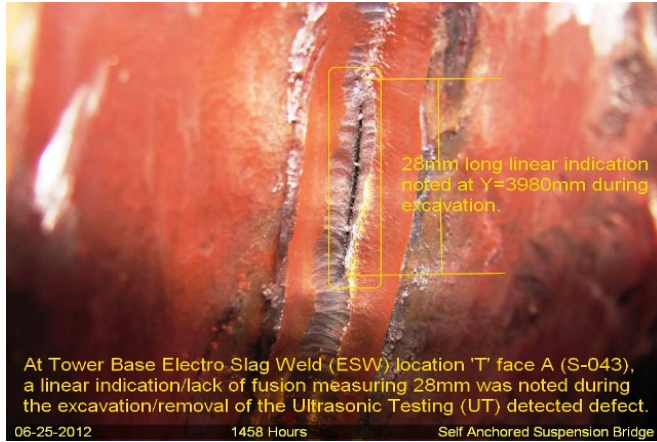


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### Summary of Conversations:

No significant conversation occurred today.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact SMR Nina Choy 510-385-5910, who represents the Office of Structural Materials for your project.

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**Inspected By:** Lizardo, Joselito

Quality Assurance Inspector

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**Reviewed By:** Levell, Bill

QA Reviewer